

# Westmont Stormwater Study Draft Findings Report

by  
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(CBBEL)

# Purpose of the Meeting

- Present some preliminary results of the study to the Village Board and the public
- Present summary of the resident questionnaires
- Describe areas of flooding and possible causes of flooding
- General discussion of proposed solutions



# Analysis of Flooding

# Recent Flooding

- September 13-14, 2008 – 6.06”
  - Average September rainfall = 3.3 inches
  - Total September 2008 rainfall = 9.88”
- 100-year 24-hour rainfall depth = 7.58 inches

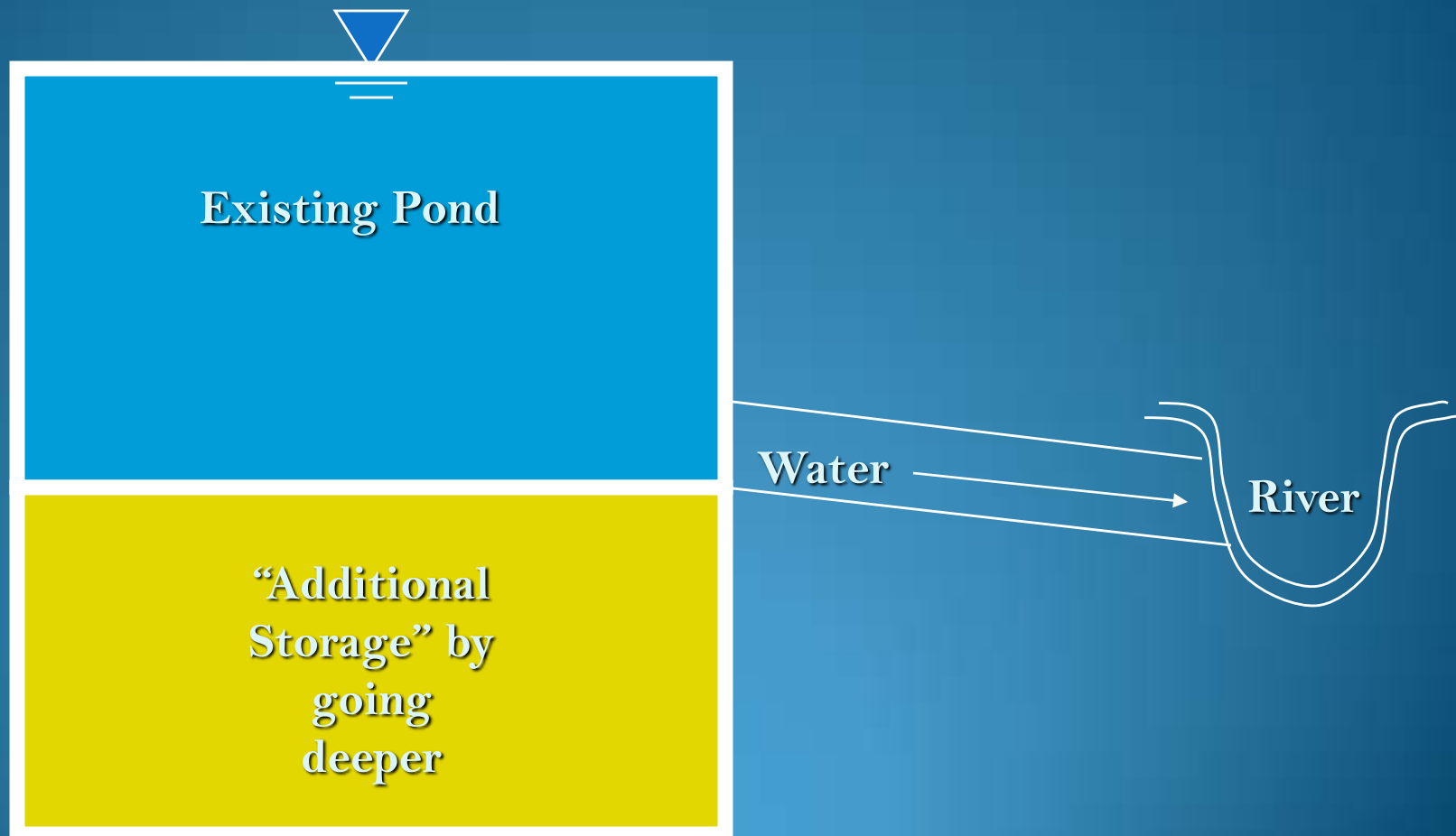
# Flooding Analysis

- September 2008 flooding caused by excessive rainfall
- Above average yearly rainfalls in 2006-2008 have led to high groundwater elevations
- New Construction/Subdivisions built over last several decades
- Met regulations and stormwater requirements at time of construction

# Commonly Misunderstood Facts About Flooding

- Digging ponds deeper will help solve problem
- Flood-proofing impacts downstream properties
- Send the problem downstream
- Someone is opening/closing a valve or gate
- Stop the standing water in the street
- The solution is to add more inlets
- Breaking watersheds
- Influence of areas not hydraulically connected
- Other local, state and federal agencies have money to take care of problem

# “Deeper” Ponds



# Tools Used

- Site Visits by CBBEL Staff
- High water marks reported by residents and Village Staff
- Village of Westmont sewer atlas
- Village of Westmont GIS mapping information
- DuPage County 2-ft topographic mapping
- Village of Westmont Flood Questionnaires
- Regional Watershed Meetings



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# Questionnaire Summary

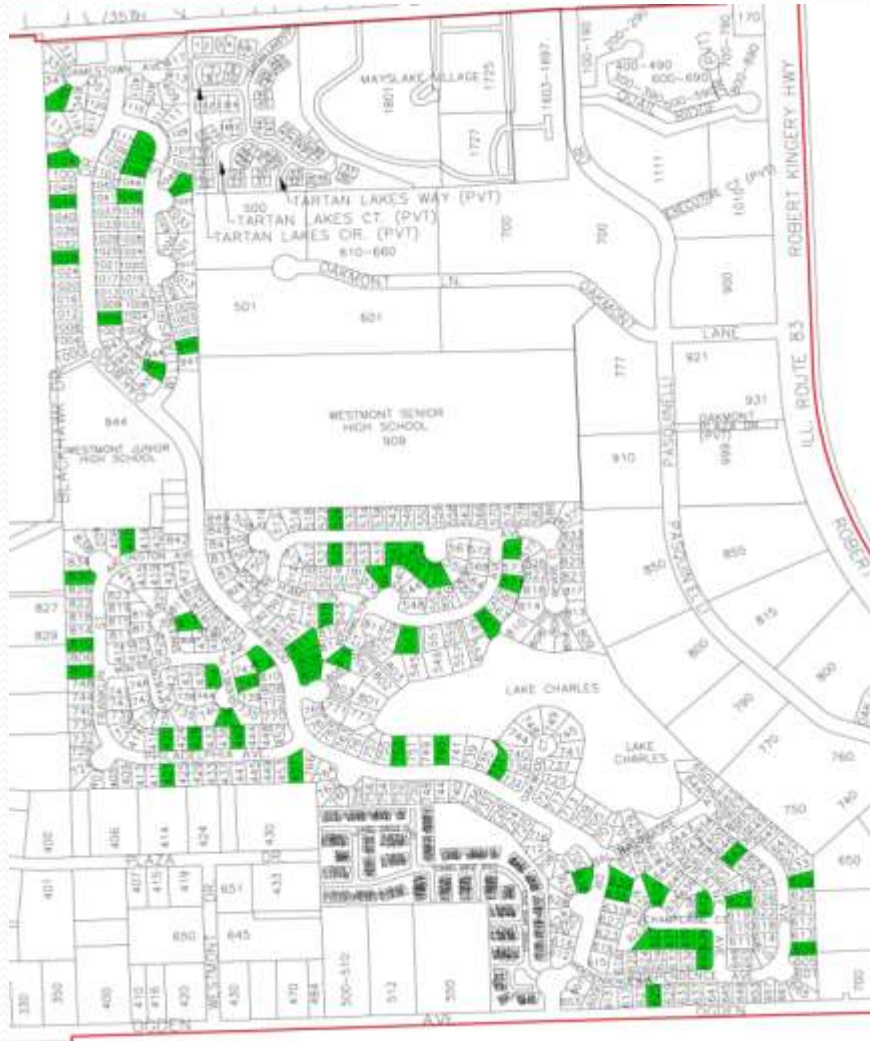
# Overall Questionnaire Summary

- Total Number of respondents – 142 total
- No flooding – 2
- Overland Flooding – 114
- Yard – 104
- Seepage – 26
- Sump Backup – 20
- Sanitary Sewer Backup – 21

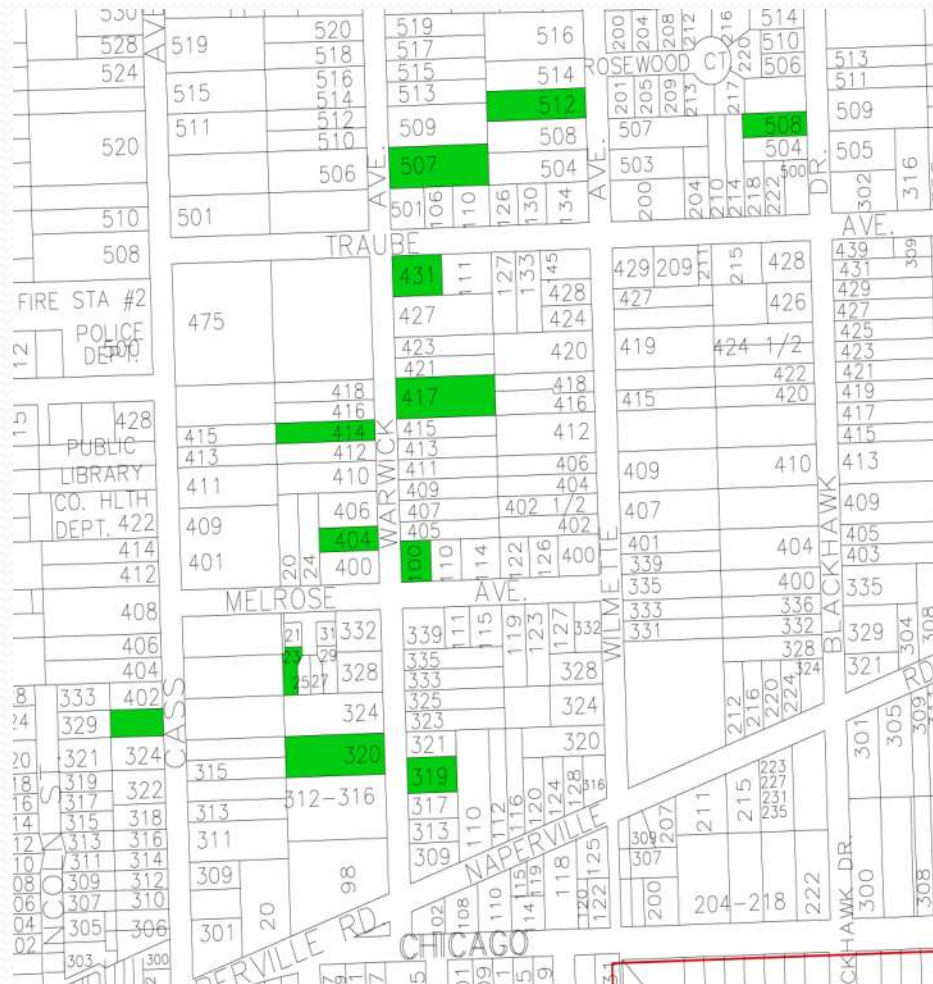
# Overall Overland Damage



# Oakwood Overland Damage

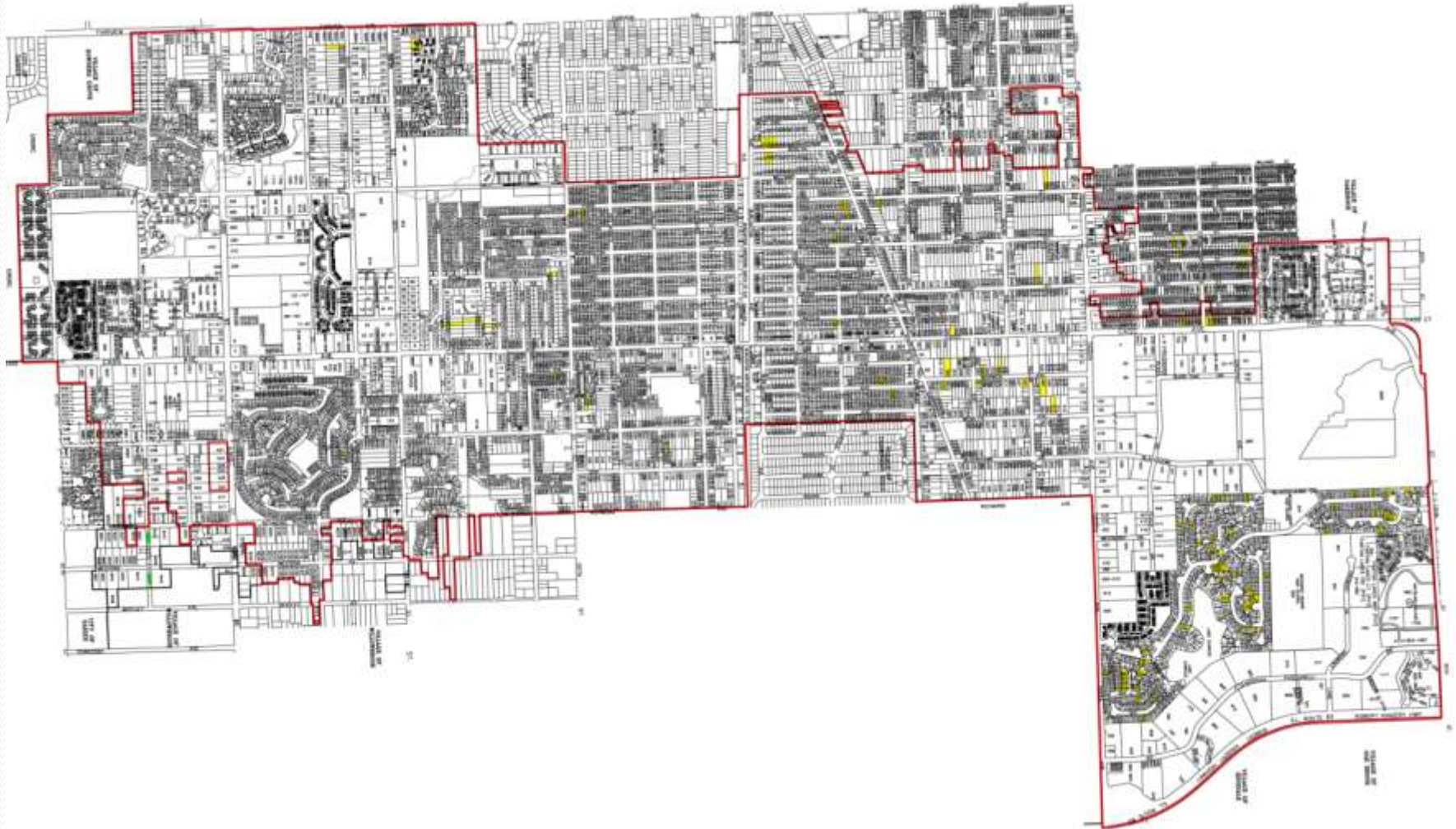


# Warwick Overland Damage

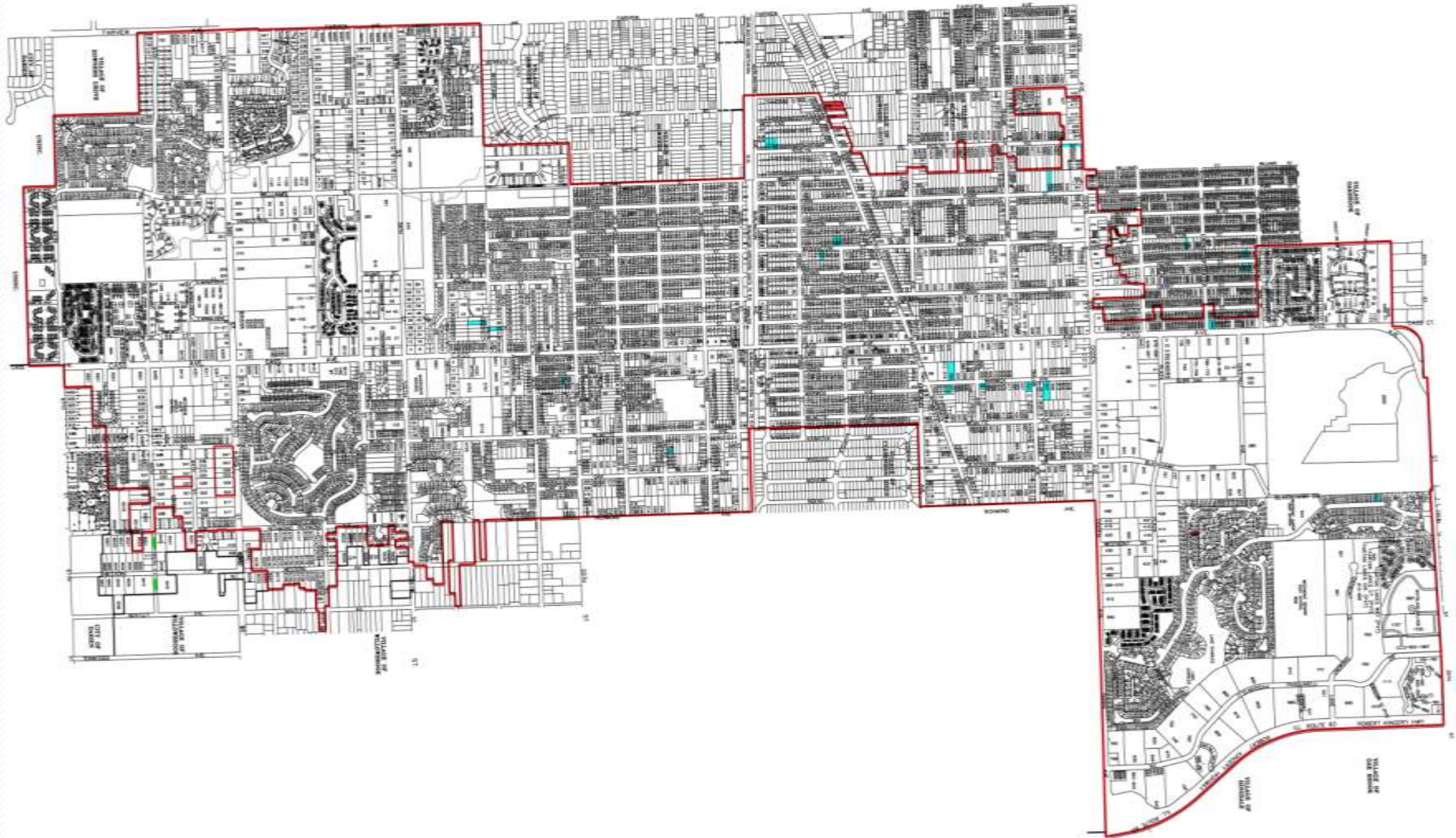




# Overall Yard Flooding

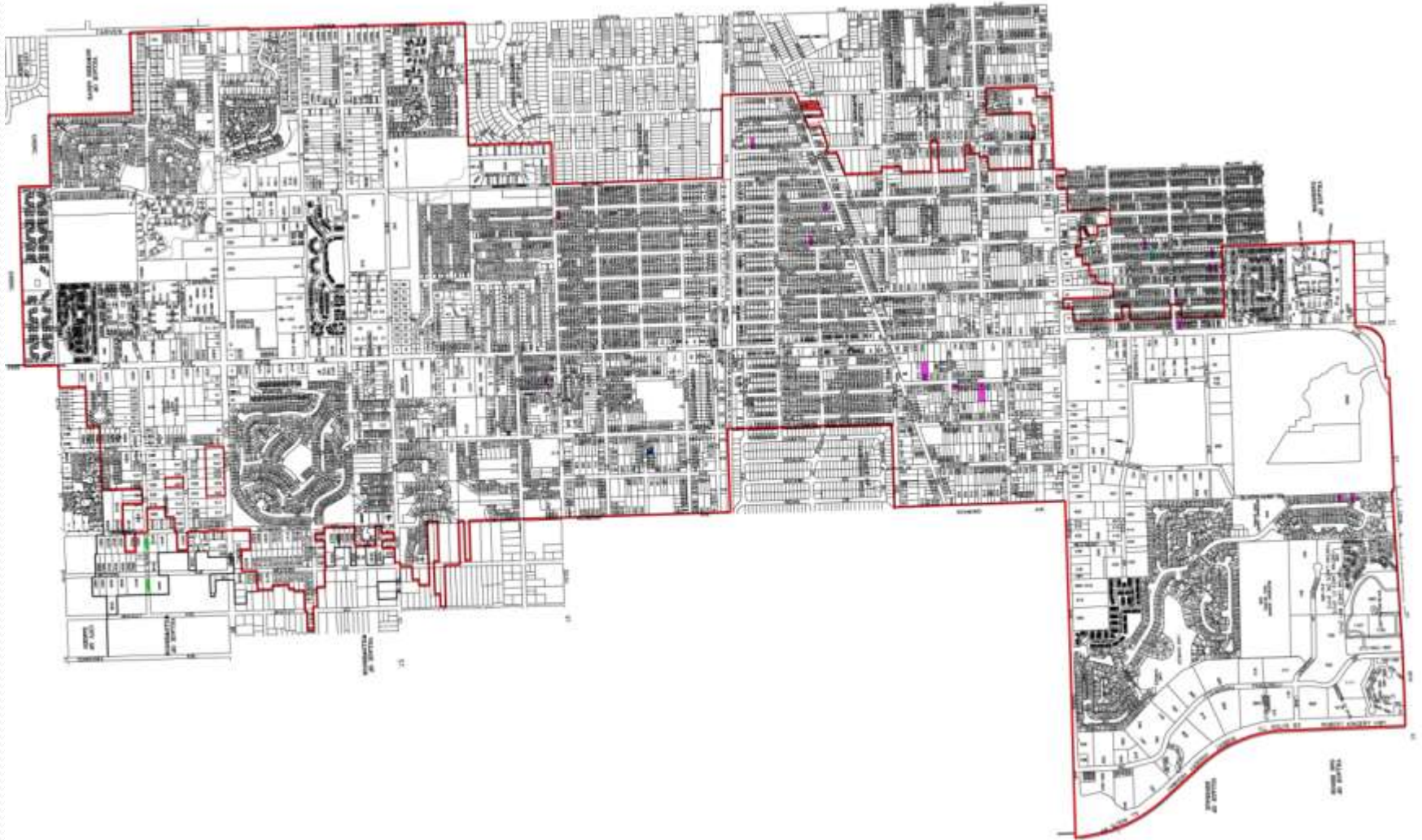


# Overall Seepage



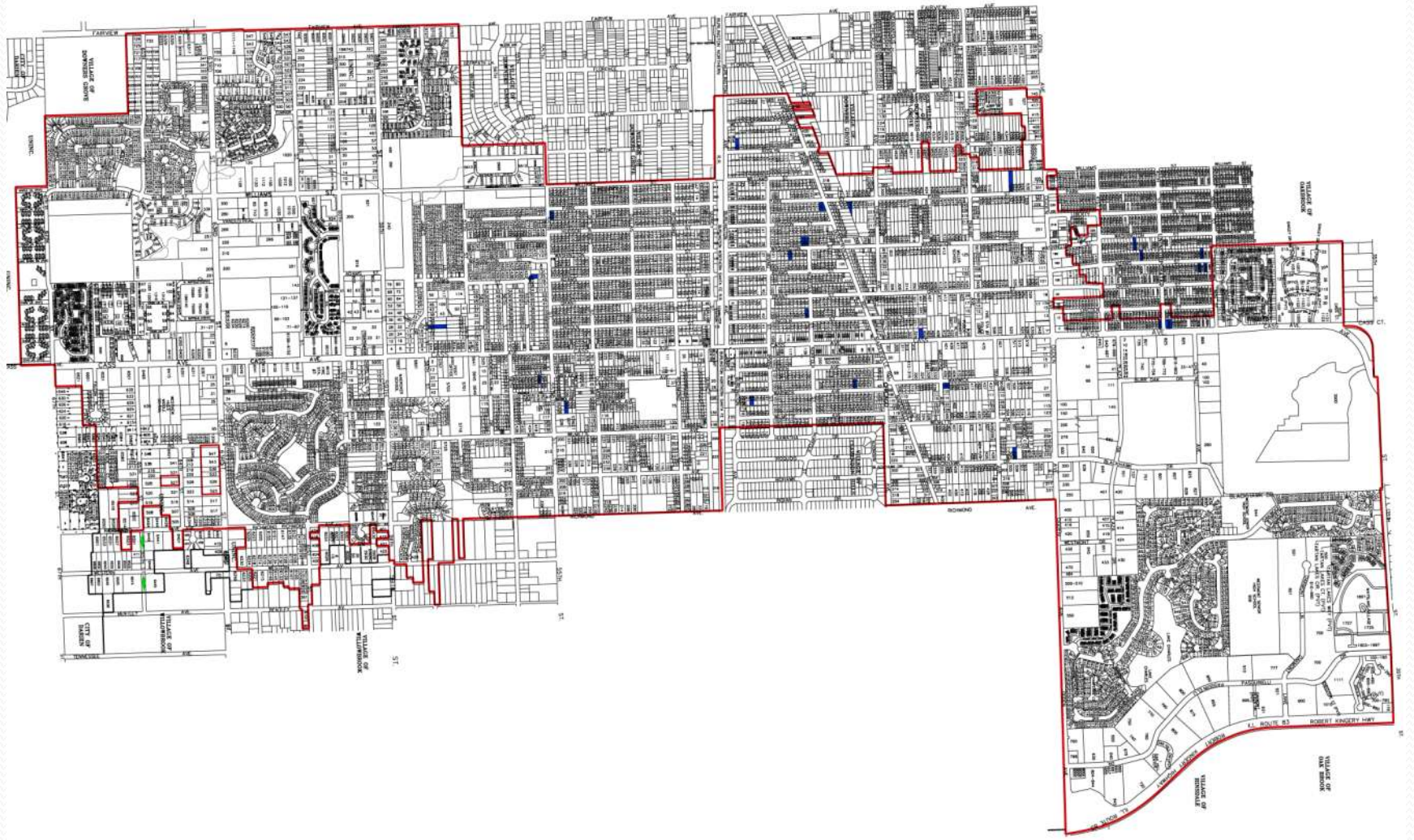


# Overall Sump Backup





# Overall Sanitary Sewer Backup



# Questionnaire Summary (Cont.)

- Problem Clusters Identified
  - Salt Creek Drainage Basin
    - Oakwood Subdivision
    - 300 and 400 Block of Warwick Ave
  - N. Branch St. Joseph Creek
    - 3900-4000 N Adams and Washington
    - 0-100 N Roslyn

# Questionnaire Summary (Cont.)

- Problem Clusters Identified
  - St. Joseph Creek
    - Doe Circle
    - 300 S Park
  - Flagg Creek
    - 200 N Warwick
    - 300 S Warwick
    - 200 E Dallas
    - W 56<sup>th</sup> Pl

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# Existing Conditions



# Oakwood Subdivision



- Largest number of responses (over 62 in total)
- Majority of the complaints are standing water in either the front or rear yard areas
- No complaints of actual overbank flooding

# 300-400 Warwick



- Concern about the new construction
- Drainage of 300 Warwick travels in 2 directions
- Area is a bowl with the only outlet being a storm sewer

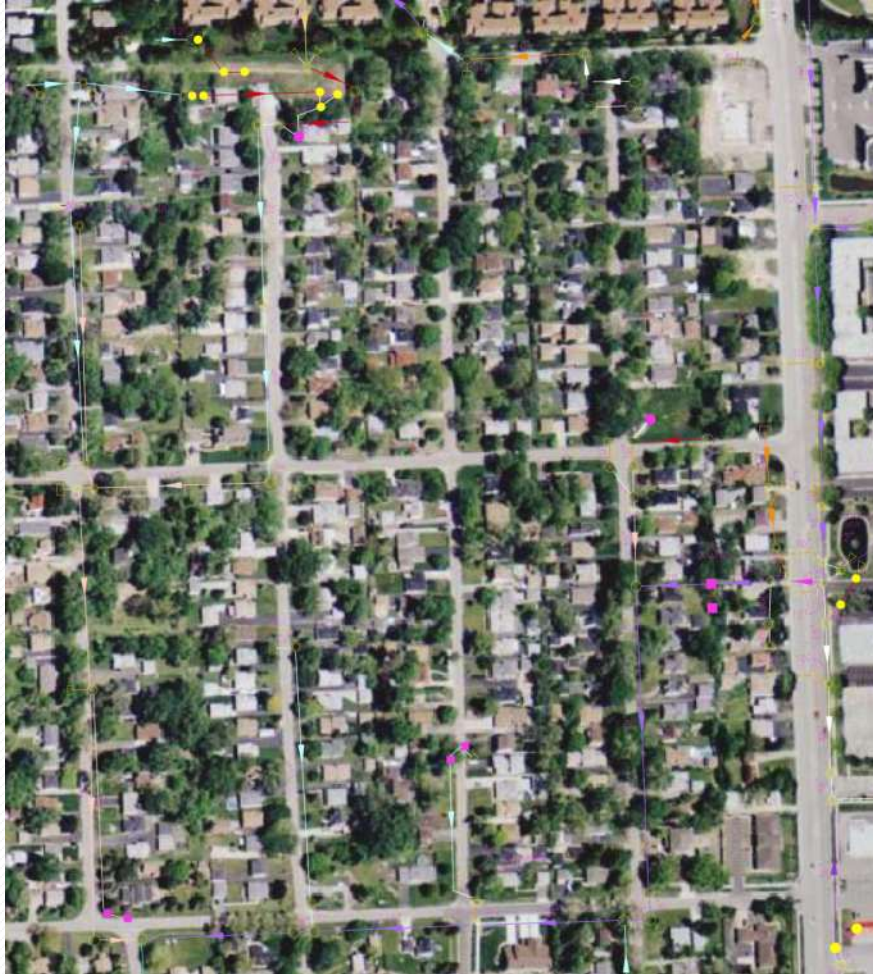


# Rosewood Ct./Blackhawk Drive



- Detention basin overflow

# 3900 and 4000 Block Washington, Adams and Cass



- Depressional areas with no natural outlet
- Storm sewer system is easily overwhelmed
- Detention ponds are undersized relative to the tributary area



# O-100 Roslyn



- Smaller depressional area
- Storm sewers undersized

# Cumnor and Burlington



- Depressional area
- Potential storage site
- Downers Grove participation

# Grant and Chicago



- Depressional area
- Storm sewer capacity issue
- Drains to downstream problem area (Washington/Chicago)



# Washington and Chicago



- Depressional area
- Storm sewer capacity issue

# Deer Creek Subdivision



- Poorly defined overland flow paths
- Overflow into adjacent community

# Park and 55<sup>th</sup>



- Storm sewer surcharge/capacity issue
- Storm sewer is under DuPage County Division of Transportation jurisdiction

# Oak and Quincy



- Depressional area
- Drainage restricted by railroad embankment



# 200 E Dallas and Richmond/Richmond



- Poorly defined overflow areas
- Storm sewer surcharge during larger events
- Regional basin overflow



# 60<sup>th</sup> and Fairview



- Overbank overflow from an unnamed tributary to St. Joseph Creek
- Poor overland flow routes

# Richmond and Grant



- Depressional area with no natural outlet
- Storm sewer capacity
- High ground water table

# Washington and Norfolk



- Sanitary Sewer backups from street ponding
- Storm sewer capacity issue



# 200 N Warwick



- Storm sewer capacity issue
- Relatively large tributary area

# 300 S Warwick



- Rear Yard Drainage Problems

# W 56<sup>th</sup> Pl



- Rear yard drainage issue



# Hampton Ave



- Groundwater Problem

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# Proposed Solutions



# Considerations For Improvements

- Retrofits must be permittable under the DuPage County Countywide Stormwater and Floodplain Ordinance
- Must be compliant with State and Federal regulations
- Flood-proofing of residential structures
- Alternatives involving existing stormwater facilities and publicly owned property
- May require construction on private property

# Types of Projects

- Flood-proofing of existing residential structures
- Upsizing or modification of existing sewers
- Re-establishment of overland flow routes
- Installation of rear yard inlets
- Create floodwater storage
- Combination of the above

# Oakwood Improvements

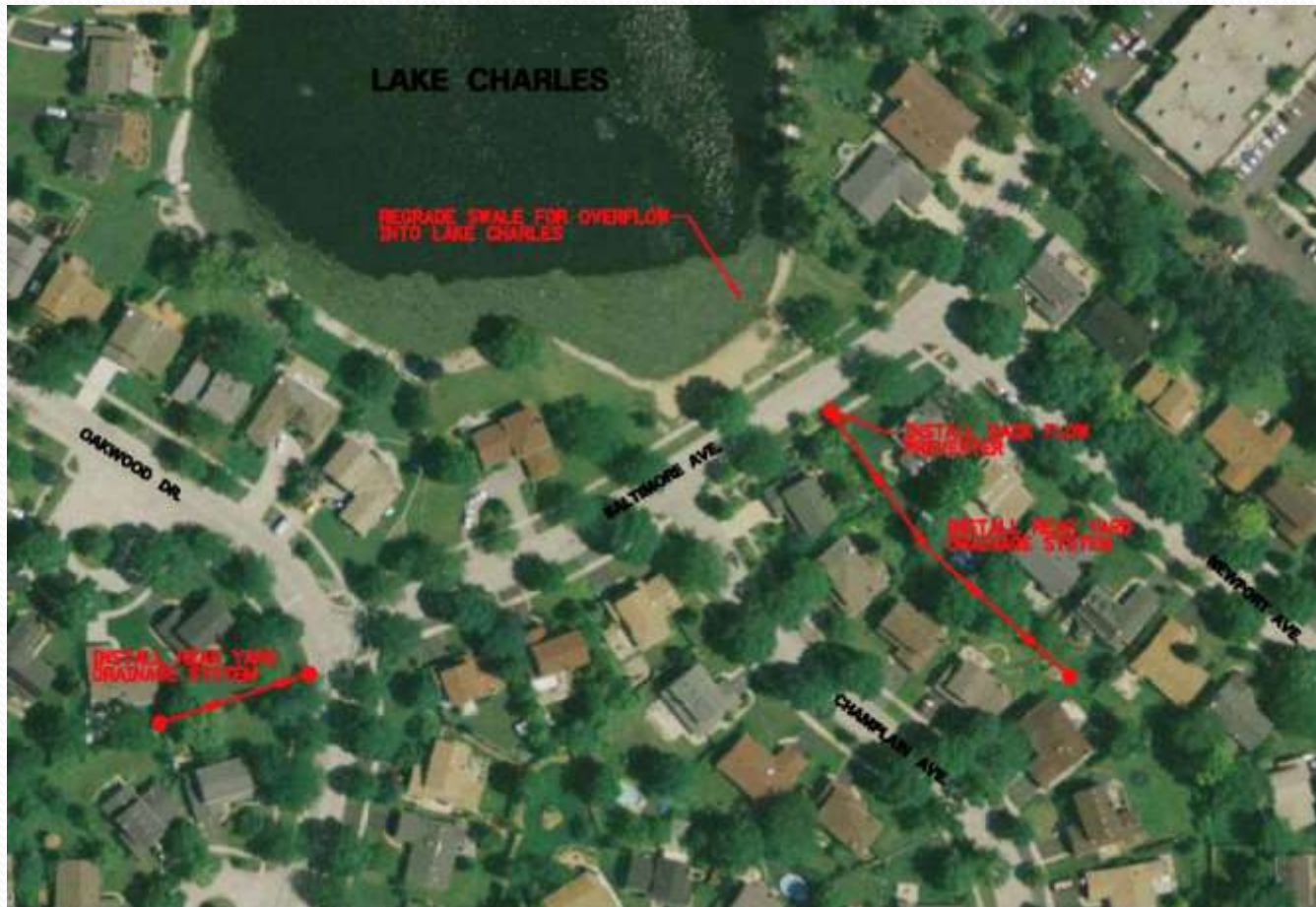
- Add rear yard storm sewer
- Extend public sewers (Where needed)
- Install backflow preventers in some locations
- Re-grade overflow swales

# Oakwood Improvements

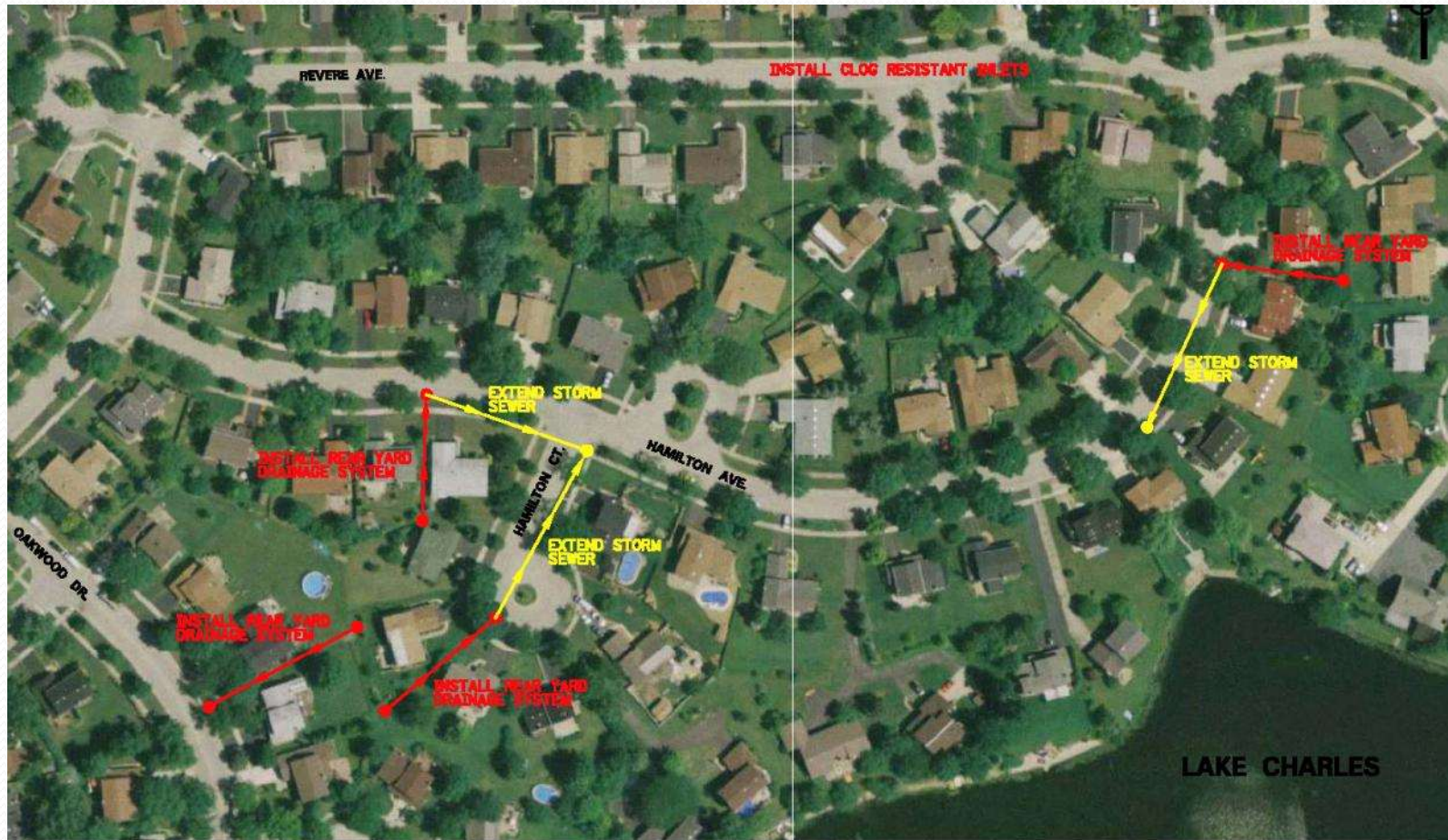




# Oakwood Improvements



# Oakwood Improvements





# Oakwood Improvements



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# Oakwood Improvements



# Oakwood Improvements





# 300-400 Warwick Improvements



- Install storm sewer along 300 Warwick and Melrose Ave
- Construct detention storage basin on 400 block of Warwick
- 2<sup>nd</sup> Alternative would be residential floodproofing

# Rosewood Ct./Blackhawk Drive



- Clean/Repair detention pond outlet



# 3900 and 4000 Block Washington, Adams and Cass



- Enlarge existing detention basins/Create additional storage
- 2<sup>nd</sup> Alternative – Residential floodproofing

# O-100 Roslyn



- Install backflow preventer
- Drain sewer to basin at Cumnor/Burlington
- Re-establish overflow route near 15 and 19 Roslyn



# Cumnor and Burlington



- Construct Detention Basin

# Grant and Chicago



- Residential Floodproofing



# Washington and Chicago



- Residential floodproofing

# Deer Creek Subdivision



- Re-establish overland flow paths
- Move overflow to line up with street R.O.W. (Coordinate with Village of Downers Grove)

# Park and 55<sup>th</sup>



- Residential floodproofing
- Add to DuPage County buyout list



# Oak and Quincy



- Construct detention basin



# 200 E Dallas and Richmond



- Rebuild berm along north side of basin
- Install dewatering valve
- Residential floodproofing upstream

# 60<sup>th</sup> and Fairview



- Re-establish overland flow routes

# Richmond and Grant



- Install backflow preventer on 24" storm sewer
- Install under drain system along R.O.W. of Richmond



# Washington and Norfolk



- Televising existing sewers
- Repair/replacing sewers as needed

# 200 N Warwick



- Residential floodproofing

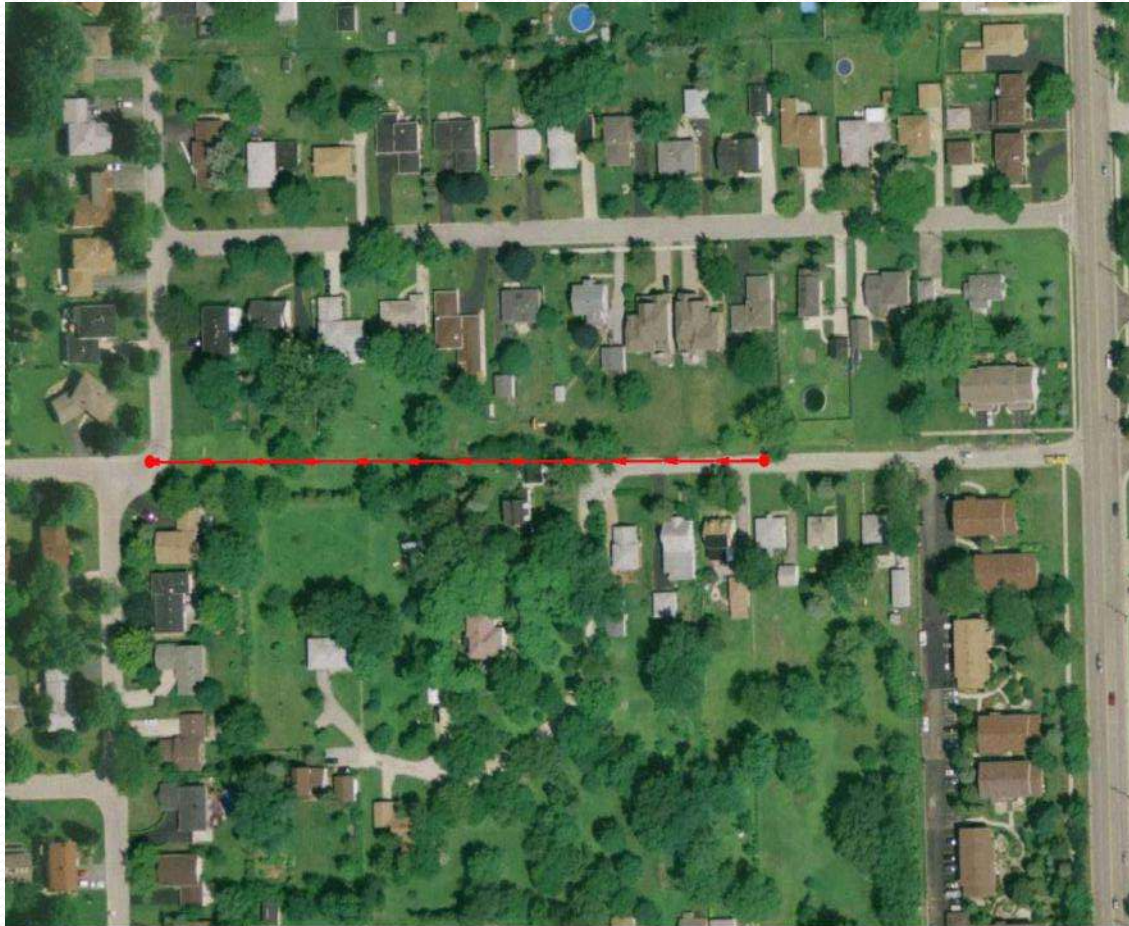
# 300 S Warwick



- Install storm sewer along Warwick
- Will require coordination with DuPage DOT

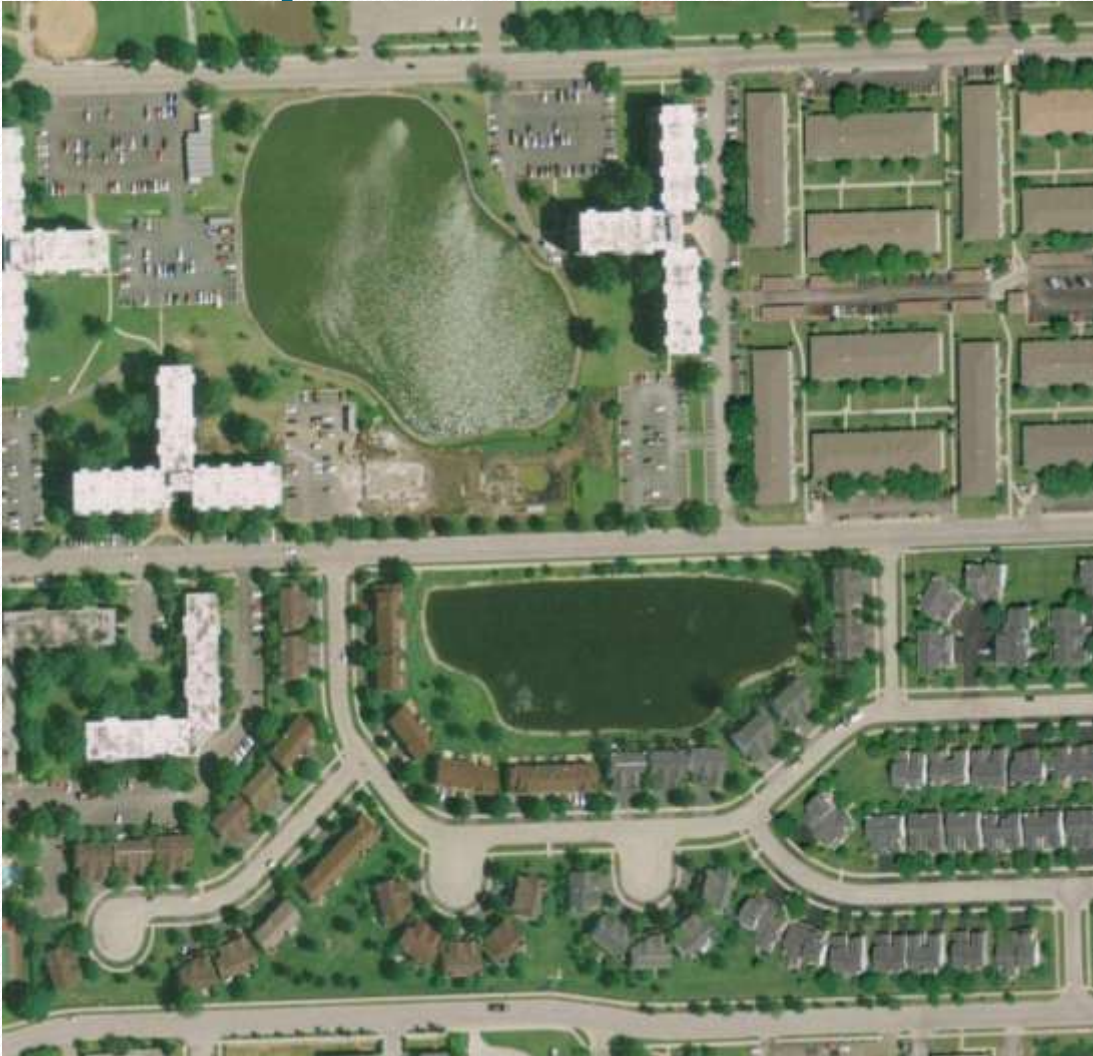


# W 56<sup>th</sup> Pl



- Install rear yard drainage system

# Hampton Ave



- Residential floodproofing
- Install under drain system with backflow preventer

# Project Funding Sources

- FEMA grant monies
  - HMGP Program
  - Flood Mitigation Assistance
  - Pre-Disaster Mitigation Program
- State of Illinois
  - Community Development Block Grants (CDBG)
  - IEPA Section 319 Grants
- DuPage County Funding
  - Property Acquisition
  - Stormwater Project Funding
- Local Funding
  - Stormwater Utility



# Additional Village Wide Recommendations

- Do not allow fee-in-lieu of detention where there are known problem areas downstream
- Consider adding a fee for all impervious area additions
- Add all overbank flooded houses to the DuPage County buyout list

# Next Steps

- Map inundation areas on new 1' topography
- Prioritize proposed solutions with Village staff
- Finalize Opinions of Probable Cost
- Complete final report

# Thank you

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## Questions or comments?